Acute Toxicity Test Chypermetrin Insecticide And Lambda Chyhalothrin Insecticide By Biota Test Guppy Fish (*Poecilia reticulata*) And Shell Flower (*Pistia stratiotes*)

Name : Dika Nurrachmi  
ID Number : 3310100027  
Department : Environmental Engineering  
Supervisor : Bieby Vojjant Tangahu, ST, MT, Ph.D

ABSTRACT

Chypermetrin insecticides and lambda cyhalothrin are the pyrethroid class of pesticides widely used by farmers to protect agricultural production from a variety of pests. However, with the increasing of inappropriate use will lead to potential contamination in the aquatic environment. Therefore, it is necessary to determine the toxicity test to know the toxicity limit and safe concentration, so the damage to aquatic biota can be minimized in the future.

In this study, the acute toxicity tests will be done towards sipermetrin insecticides and lambda cyhalothrin conducted for 96 hours (4 days) in the guppy fish (*Poecilia reticulata*) and water lettuce (*Pistia stratiotes*). Concentration variation in acute toxicity tests obtained from the range finding test with a concentration of 0 mg /L (control); 0.01 mg /L ; 0.1 mg /L ; 1 mg /L ; 10mg /L; 100 mg /L. Then, the acute toxicity test with a narrow range of variation of dilution water volume / toxicant volume is done. The data processing uses Lithfield-Wilcoxon method for 50-96 hours LC.

Based on the study, LC$_{50}$ values of chypermetrin insecticides and lambda cyhalothrin are obtained consecutively against guppies at 0.4393 mg /L and 0.07118 mg /L. While the LC$_{50}$ values of chypermetrin insecticides and lambda cyhalothrin consecutively against shell flower are 48,658 mg /L and 5.0237 mg /L.
Keywords: *Poecilia reticulata*, *Pistia stratiotes*, *Chypermetrin*, *Lamda chyhalotrin*. Lethal Concentration-50